



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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April 12, 1994

Mr. Lloyd Weir  
General Refractories Company  
721 West 3rd Street  
Pueblo, Colorado 81003

Re: Remaining Outstanding Concerns, Notice of Intention to Commence Large Mining Operations, General Refractories Company (GRC), Roudabush #1 Mine, M/045/027, Tooele County, Utah

Dear Mr. Weir:

Thank you for your response letter, received March 21, 1994, to the Division's February 21, 1991 review letter. There are remaining concerns that your letter did not address. These concerns are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

**R613-004-105.2 Maps, Drawings and Photographs**

1. All existing and/or proposed locations for the surface facilities at the mine are not shown on the maps provided in the application. Specifically, the location of topsoil stockpile(s) that currently exist along the southwestern edge of the mine site area and the coarse ore stockpile that exists on the southern side of the main access road were not shown. You mentioned you feel it is clear on the map as to borders and total property GRC will permit. Since you declined to clarify any borders, the Division will assume borders and a permit boundary for the Roudabush #1 Mine and calculate a surety accordingly. Enclosed please find a map, prepared by the Division, that contains disturbed area borders and a permit boundary we have assumed. The new bond calculation is based on this map. The Operation Plan section of this letter contains an itemized breakdown of acreage the Division planimetered from this map. The coarse ore stockpile has been sketched on this map, but the location of the topsoil stockpile is still unclear. Please revise one of the maps (Sheet 2 or 3) to include all surface facilities.



2. Sheet 3, Mine Phasing, has portions of the map stippled and cross-hatched with different shaded patterns. No key or legend is provided on the map to enable the reviewer to interpret these patterns. Please revise this map to include a key explaining the significance of these symbols.

#### **R613-004-106.3 Operation Plan**

The following disturbed acreage was planimetered from Sheet 3, "Mine Phasing": present mine quarry area = 2.3 acres; future quarry area = 18.9 acres; stockpile area = 4.4 acres; staging area = 2.2; coarse ore stockpile area = 0.3 acres; access road = 0.9 acres (assumed average width is 30 feet). These measurements total 29.0 acres of disturbance. This figure was used in calculating the Division's reclamation surety estimate.

#### **R613-004-107.2 &.3 Operation Practices**

You have indicated a three inch (3") culvert will be used to bypass the drainage that the access road crosses. We are assuming a typographical error was made and you meant to indicate a three foot (3') culvert will be used. A three foot (3') diameter culvert should be sufficient to pass the 25 year storm event (50 cfs).

#### **R613-004-111 Reclamation Practices**

GRC has agreed to amend the seed mix to the Division's recommendation. Your letter stated that GRC will agree to the Division's alfalfa mulch recommendation of 4,000 pounds (two tons) of alfalfa mulch. The Division's recommendation is 4,000 pounds *per acre*; we assume that is what you actually meant (i.e., two tons/acre of alfalfa hay mulch).

You have indicated that the topsoil that has been stockpiled on site will be used to cover the area where crushed stone is stockpiled. Will the topsoil be used to cover the coarse ore stockpile area or the product stockpile area?

#### **R613-004-112 Variances**

There was no mention of a nutrient evaluation on the processed material in your response letter. Therefore, the Division will require a blanket application of 200 lbs/acre diammonium phosphate (18-46-0) to amend the rejected fines material prior to seeding and mulching.



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Lloyd Weir  
M/045/027  
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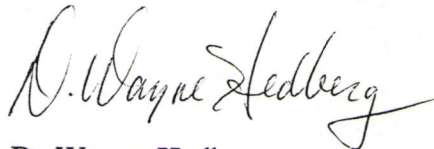
**R613-004-113 Surety**

The Division has calculated a revised draft of the reclamation surety estimate based upon 29.0 acres of disturbance. The total estimate is \$72,500 (1999 dollars). The estimate was based upon third party costs to reclaim the site. A copy of the draft reclamation estimate is enclosed.

The Division will seek an agreement with Tooele County regarding the conditions for final release of their \$15,000 reclamation surety. The Division will require that the reclamation surety not be released by Tooele County until the operator has satisfied all of the reclamation obligations pursuant to the Utah Mined Land Reclamation Act (Title 40-8, et. seq., as amended) and the approved mining and reclamation plan. Upon our attainment of this agreement with Tooele County, we will be able to effectively reduce the required amount of surety by \$15,000. This will lower the amount of surety required by this Division to \$57,500 (1999 dollars).

These remaining concerns will need to be addressed before the Division can grant tentative approval for this application. Please contact me or Travis Jones of the Minerals Program if you have any questions regarding the content of this letter. Thank you for your attention to this matter.

Sincerely,



D. Wayne Hedberg  
Permit Supervisor  
Minerals Reclamation Program

jb  
Enclosure (map & estimate)  
cc: Rod Thompson, Tooele County  
Lowell Braxton, DOGM  
Minerals File  
M045027.let

Reclamation Estimate

DRAFT

filename M45-27B.WK1

General Refractories Company

M/045/027

last revision

04/04/94

Roudabush Mine Tooele County

Prepared by Utah State Division of Oil, Gas &amp; Mining

## Reclamation Plan Details

- Bench highwall;ASSUME:20 ft wide bench every 25 ft vertical,600 LF, 3 benches tota
- Rip all compacted areas to be revegetated
- Distribute fines over quarry floor; fines estimated at 7% annual production, 26 yr min
- Restore channel & riprap; ASSUME 500 LF, 6" of riprap)
- Spread existing topsoil stockpiled (estimated vol= 300 CY)
- Revegetation = fertilizing, mulching & seeding (previous estimate was \$468/acre)
- Fertilizer = diammonium phosphate at 200 lbs/acre
- Mulch = hay mulch at 2 ton/acre
- Mobilization (third party doing reclamation)
- Disturbed area = present quarry (2.3) + future quarry (18.9) + stockpile area (4.4) + staging area (2.2) + coarse stockpile (0.3) + access road (0.9)
- TOTAL SURFACE DISTURBANCE = 29 ACRE

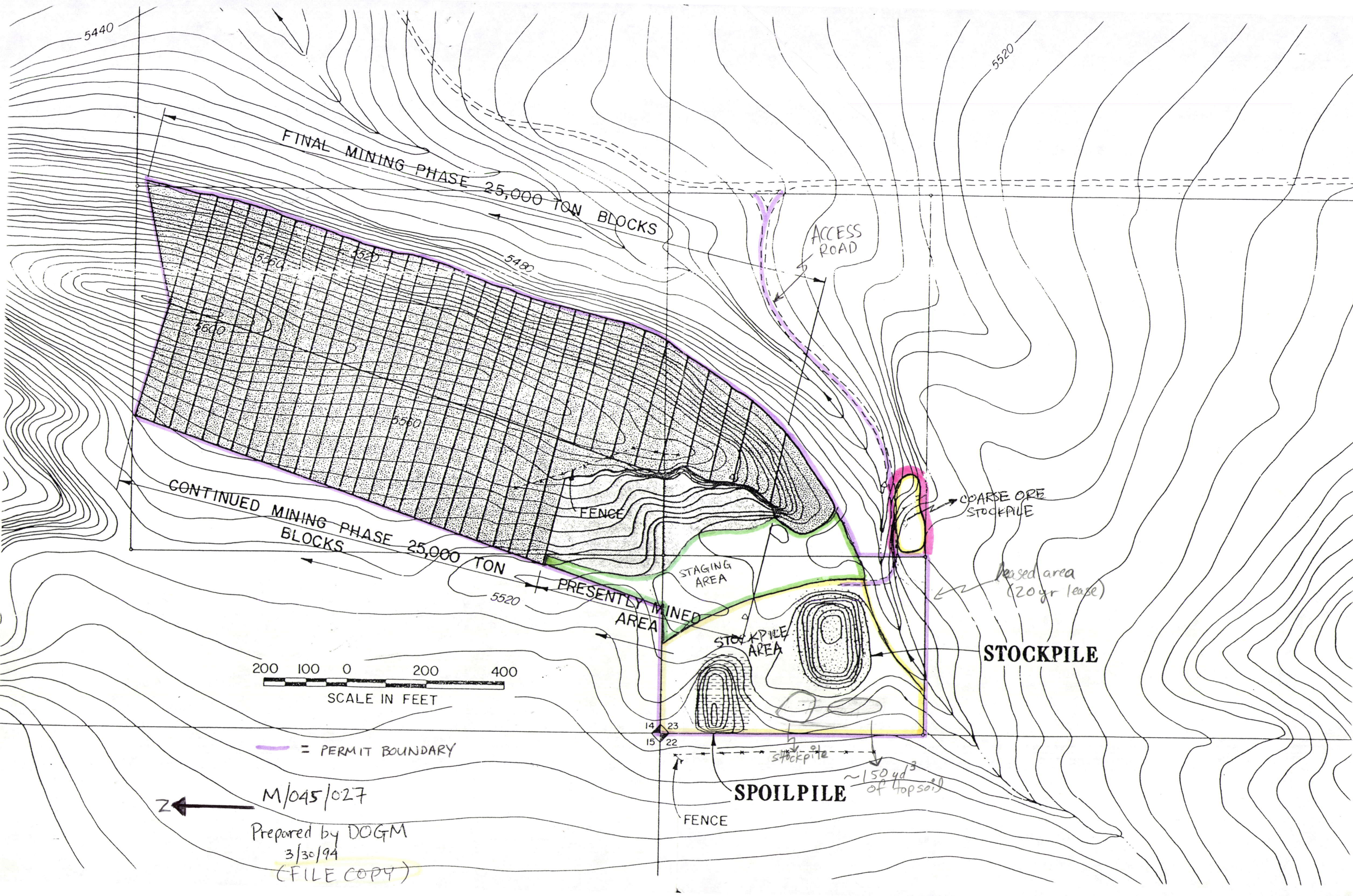
Description	Quantit	Unit	\$/Unit	Cost(\$)
Bench highwall	41,700	CY	0.25	10,425
Remove rock pads in stockpile area	1,940	CY	1.23	2,386
Rip: pit, road, piles, pads, etc (D9N,0.8 mp	29.0	acre	304	8,816
Spread fines on quarry area	30,000	CY	0.78	23,400
Restore channel & rip rap	500	LF	1.50	750
Spread stockpiled topsoil	300	CY	0.48	144
Fertilize (\$70 materials + \$30 application)	29	acre	100	2,900
Mulch (\$150 materials + \$40 application)	29	acre	190	5,510
Seed (\$125 materials + \$50 application)	29	acre	175	5,075
Mobilization (1 dozer, 1 FE loader)	2	equip	1,000	2,000

	SUBTOTAL	61,406
	+ 10% CONTINGENCY	6,141
	SUBTOTAL	67,547
+ ESCALATION (1.42% for 5 years)		4,934
	SUBTOTAL	72,481
	ROUNDED TOTAL(1999-\$)	72,500

less bond amount held by TOOELE COUNTY	-	15,000
	ROUNDED TOTAL(1999-\$)	57,500

Average cost per acre = \$ 2,500





FINAL MINING PHASE 25,000 TON BLOCKS

ACCESS ROAD

CONTINUED MINING PHASE 25,000 TON BLOCKS

FENCE

STAGING AREA

PRESENTLY MINED AREA

COARSE ORE STOCKPILE

leased area (20 yr lease)

STOCKPILE

200 100 0 200 400  
SCALE IN FEET

— = PERMIT BOUNDARY

← Z M/045/027

Prepared by DOGM  
3/30/94  
(FILE COPY)

SPOILPILE

~150 yd³ of topsoil

FENCE